Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
2008 USGS Lidar: Twelve County, Illinois (Grundy, Kane, McHenry only)

1.2. Summary description of the data:
This LiDAR data is within Illinois Department of Transportation districts 1 and 3 covering Grundy, Kane and McHenry counties. The data is updated from its original format to LAS version 1.2.   The LiDAR data was collected in April 2008. Task Order Number: 3. Data was acquired by Quantum Spatial as project 1080208 with an Optech ALTM 3100 sensor equipped with an inertial measuring unit (IMU) and GPS receiver. The acquisition was to produce bare earth ASCII, LAS data and 2 foot contour Shapefiles. Only the counties of Grundy, McHenry and Kane were included in the Digital Coast project, as the other nine counties are not directly related to NOAA OCM tools and internal products.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2008-05-05 to 2008-05-20

1.5. Actual or planned geographic coverage of the data:
W: -88.706128, E: -88.197747, N: 42.4964285, S: 41.09793

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
las

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):
Process Steps:

- 2008-12-29 00:00:00 - The LiDAR data was captured using twin-engine fixed wing aircraft equipped with a LiDAR system. The LiDAR system includes a differential GPS unit and inertial measurement system to provide superior accuracy. LiDAR swaths are inspected, aligned to one another and indexed to surface check points. Data points are classified, inspected and breaklines added. Derivative data products are produced for delivery. Acquisition parameters: 1. Scanner - Optech ALTM 3100 EA 2. Flight Height - 1700 m above mean terrain 3. Swath Width - 18 degrees 4. Sidelap - 33% 5. Nominal Post Spacing - 1.2 m. GPS and IMU processing parameters: 1. Processing Programs and version - Applanix - POSGPS and POSProc, versions 4.31 2. Max PDOP during LiDAR collection - 3.0 3. Max distance from GPS base stations during collection - less than 25 km 4. Mean differential baseline length - 15 km 5. Minimum number of base stations during LiDAR collection - 2 6. IMU processing monitored for consistency and smoothness - Yes. Point Cloud Processing: 1. Program and version - Dashmap, version 3.0005 2. Horizontal Datum - NAD83(NSRS2007) 3. Horizontal Coordinates - Illinois State Plane Coordinate System, 1201, East Zone, in US Survey Foot 4. Vertical Datum - NAVD88 5. Geoid Model used to reduce satellite derived elevations to orthometric heights - NGS Geoid03. LIDAR Processing: 1. Processing Programs and versions - TerraSolid TerraScan (version 008.009) and TerraMatch (version 008.006) and Intergraph MicroStation (version 08.01.02.15). 2. Point Cloud data is imported to TerraScan in a Microstation V8 (V) CAD environment on a specified 5000 foot by 5000 foot tiling scheme. 3. Analyze the data for overall completeness and consistency. This is to ensure that there are no voids in the data collection. 4. Inspect for calibration errors in the dataset using the TerraMatch software. This is accomplished by sampling the data collected across all flight lines and classify the individual lines to ground. The software will use the ground-classified lines to compute corrections (Heading, Pitch, Roll, and Scale). 5. Orientation corrections (i.e. Calibration corrections) are then applied to the entire dataset. 6. Automatic ground classification is performed using algorithms with customized parameters to best fit the project area. Several areas of varying relief and planimetric features were inspected to verify the final ground surface. 7. Quantum Spatial provided Quality Assurance and Quality Control (QAQC) data for this project. Quantum Spatial captured 103 QA/QC points in multiple land cover categories that were used to test the accuracy of the LiDAR data. TerraScan's Output Control Report (OCR) was used to compare the QAQC data to the LIDAR data. This routine searches the LIDAR dataset by X and Y coordinates, finds the closest LIDAR point and compares the vertical (Z) values to the known data collected in the field. Based on the QAQC data, a bias adjustment was determined, and the results were applied to the LIDAR data. 8. Once the automatic processing and the testing of LiDAR is complete, Quantum Spatial reviews the generated bare-earth surface data to insure that proper classification was achieved as part of a Quality Control process. 9. Final deliverables are generated and output to a client specified 2000 ft by 2000 ft tiling scheme. (Citation: Grundy Co., IL LiDAR)

- 2013-12-01 00:00:00 - LiDAR data acquired and processed in 2008 is reprocessed in

LAS tiles to LAS version 1.2. The data is reclassified to ASPRS point classification. Derivative data products are produced for delivery. Processing programs and versions - TerraSolid TerraScan (version 013.004), TerraModeler (version 013.002) and TerraMatch (version 013.002) and Intergraph MicroStation (version.08.05.02.70) . 1. LAS version 1.0 data is processed through TScan to assign point classifications as: Class 1: Processed, but unclassified / non-ground   Class 2: Ground   Class 7: Noise / Low Points   Class 8: Model Key Points (mass points)   Class 9: Water   Class 10: Ignored Ground, (Breakline proximity) 2. Data is written to LAS version 1.2 format files on a per tile base 2000 feet by 2000 feet. 3. Bare earth DEM files are generated from classified LAS ground data and output as hydro flattened with breaklines to delineate surface water as it was present at the time of data acquisition. 4. Using TerraScan, the DEMs are generated in an ASCII format on a per tile basis with neighboring tile information available to minimize seams between tiles. These DEM are reviewed using GlobalMapper for adherence and completeness to the data and tile layout used during the creation process. 5. Following review acceptance, the ASCII files are processed through GlobalMapper into a FLOAT format. These files are converted using ArcMap to the delivered GRID format. (Citation: Illinois Twelve Counties LiDAR Processing, 1130113)
- 2016-03-15 00:00:00 - The NOAA Office for Coastal Management (OCM) received the files in laz format from USGS via an FTP online repository. The files contained lidar elevation and intensity measurements. The data were in State Plane Illinois East, NAVD88 (orthometric) feet. OCM performed the following processing for data storage and Digital Coast provisioning purposes: 1. The data were converted from State Plane coordinates to geographic coordinates. 2. The data were converted from NAVD88 (orthometric) heights in international feet to GRS80 (ellipsoid) heights in meters using Geoid 03. 3. The LAS data were sorted by latitude and the headers were updated. 4. Erroneous elevations were removed. 5. The LAS tiles were retiled to remove overlap between McHenry and Kane counties.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/49760

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=5020
https://coast.noaa.gov/htdata/lidar1_z/geoid18/data/5020

7.3. Data access methods or services offered:
This data can be obtained on-line at the following URL:

https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=5020

The data set is dynamically generated based on user-specified parameters.;

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.